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--46. An amplification reaction mixture for the quantitation of a target nucleic acid segment in a biological sample, said reaction mixture comprising:

said target nucleic acid;

a predetermined initial amount of a control sequence for quantitation of a target nucleic acid, wherein said control sequence binds the same primers as are bound by said target nucleic acid segment; and

an oligonucleotide primer pair wherein said primer pair can serve to amplify said control sequence and said target nucleic acid, wherein following amplification said control sequence and target amplified nucleic acid segments are distinguishable by size or by the use of internal hybridization probes. --

-- 47. A reverse transcription reaction mixture for reverse transcribing a target mRNA

suspected of being present in a biological sample, said reaction mixture comprising a predetermined initial amount of a control sequence cRNA, a target RNA, and a target-specific primer for initiating cDNA synthesis, wherein said primer can serve to initiate reverse transcription of a nucleic acid segment contained within said control sequence cRNA together with a segment contained within the particular target nucleic acid, and wherein said control sequence is further distinguished by having a hybridization site identical in sequence to a hybridization site in said target nucleic acid, whereby following reverse transcription the resulting target and control sequence cDNAs can serve as templates for amplification for providing control sequence and target amplified nucleic acid segments which are distinguishable by size or by use of internal hybridization probes. --

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Control

-- 48. A plasmid for use as an internal control for quantitation of a target nucleic acid sequence contained within a sample which plasmid comprises:

a control sequence comprising two sequences which provide primer hybridization sites in said plasmid which primer hybridization sites are identical to primer hybridization sites within said target nucleic acid sequence such that a primer pair will function in a PCR reaction to amplify said control sequence and said target nucleic acid segment, wherein upon amplification said control sequence and said target segments can be distinguished by size or by use of an internal oligonucleotide probe. --

-- 49. A method for the quantitative determination of a target nucleic acid sequence in a sample which comprises

simultaneously amplifying by polymerase chain reaction said target nucleic acid sequence and a predetermined amount of a control sequence, said control sequence being capable of amplification by the same oligonucleotide primers used for amplification of the target nucleic sequence, and

quantifying the amount of said target nucleic acid sequence in the sample using the control sequence as an internal standard. --

Remarks

In the amendment filed on December 18, 1996, Applicants cancelled all pending claims and added new claims 34-45. Those claims were copied substantially from U.S. patent 5,476,774 (the "'774 patent"), and Applicants requested that an interference be declared between the present application and the '774 patent. Claims 34, 35, 37-39, 41-43 and 45 provided that the amplification products of the target nucleic acid sequence and the control sequence be